

THE WORLD COMES HERE
TMS2019
 148th Annual Meeting & Exhibition

CALL FOR ABSTRACTS

March 10–14, 2019
 San Antonio, Texas, USA

SUBMIT AN ABSTRACT TO:

CHARACTERIZATION

Advanced Real-Time Imaging

Real-time observations can provide important information needed to understand materials behavior, as these techniques can provide temporal and spatial insights on mechanisms free from artifacts induced from conventional experimental techniques. Traditional and emerging imaging techniques, which may be optical or non-optical, would allow such observations. Methods may be enhanced with capabilities that enable heating and cooling, controlled atmospheres, and application of stresses; and can be used to generate real-time thermodynamic and kinetic data needed to study a variety of materials and processes, such as phase transformation, oxidation, corrosion, etc. This symposium will encompass a broad range of materials science topics to enable and promote cross-cutting opportunities for multiple disciplines (biomaterials, energy materials, functional materials, structural materials, etc.). Presentations are solicited on the application of these methods to materials science and engineering, as well as on technique development.

Topics include, but are not limited to:

- Studies using real-time optical (e.g., visible light, laser, IR, and UV) and non-optical (e.g., atomic force, electron, and ultrasound) imaging techniques
- Researches using in-situ, in-operando, in-vitro, and in-vivo observation imaging techniques, such as thermal imaging furnace and other real-time imaging methods
- Confocal techniques, including fluorescence and reflection types, which may be equipped with capabilities such as heating/cooling chambers, gas chambers, mechanical testing, Raman spectroscope, and FTIR
- Microscopic or telescopic imaging methods include hot thermocouple, resistance heating, and sessile drop techniques used for high-temperature phenomena
- Thermodynamic and kinetic data from these techniques, useful for phase diagram constructions, oxidation/corrosion modeling, phase formation kinetics studies, etc.
- Work using high-speed cameras
- Materials used in imaging devices
- Novel technologies and methodologies for emerging imaging devices

ORGANIZERS

Jinichiro Nakano, U.S. Department of Energy–National Energy Technology Laboratory, USA

P. Chris Pistorius, Carnegie Mellon University, USA

Candan Tamerler, University of Kansas, USA

Hideyuki Yasuda, Kyoto University, Japan

Zuotai Zhang, Southern University of Science and Technology, China

Neslihan Dogan, McMaster University, Canada

Wanlin Wang, Central South University, China

Noritaka Saito, Kyushu University, Japan

Yongsug Chung, Korea Polytechnic University, South Korea

Bryan Webler, Carnegie Mellon University, USA

Abstract Deadline is July 1, 2018.

Submit online at www.programmaster.org/TMS2019

Questions?

Contact programming@tms.org